2016

THE IMPACT OF FRAILTY ON PUBLIC HEALTH NURSE SERVICE UTILISATION

Findings from The Irish Longitudinal Study on Ageing (TILDA)

THE INSTITUTE OF COMMUNITY HEALTH NURSING

tilda

Staidéar Fadaimseartha na hÉireann um Dhul in Aois

The Irish Longitudinal Study on Ageing

An Roinn Sláinte
DEPARTMENT OF HEALTH

Irish Life

The
ATLANTIC
Philanthropies

The impact of frailty on public health nurse service utilisation

Findings from The Irish Longitudinal Study on Ageing (TILDA)

Lorna Roe[1], Aisling O'Halloran[2], Charles Normand[1], Catriona Murphy[3]

1. Centre for Health Policy and Management, TCD

2. The Irish Longitudinal Study on Ageing, Department of Medical Gerontology, TCD

3. School of Nursing and Human Sciences, DCU

On behalf of the TILDA team

September 2016

The Irish Longitudinal Study on Ageing
Lincoln Place
Trinity College Dublin
Dublin 2

Tel: +353 1 896 4120

Email: tilda@tcd.ie

Website: www.tilda.ie

ISBN: 978-1-907894-12-1

Foreword from the ICHN President

As president of the Institute of Community Health Nursing (ICHN), I welcome this report on the Impact of Frailty on Public Health Nurse Service Utilisation in Ireland and I congratulate the authors led by Dr Lorna Roe, Trinity College Dublin. This is the second report the ICHN has commissioned from the TILDA Study Team and it provides a unique insight in to community nursing services for older people.

The study also makes an important contribution to the implementation of "Making Evidence Work for Community Nursing", the ICHN strategy to support evidence-informed policy and practice for nurses working in community. This strategy incorporates a number of other strands including building research capacity, making evidence more accessible, improving monitoring and evaluation, supporting the development of an infrastructure and maintaining and generating international links with community nursing globally.

We welcome the findings from the report which highlight the complexity of the lives of people living in community who are frail and also of the intricacy of implementing public health nursing services. Eligibility for the public health nursing service for this group, which is confined to those with medical cards only, is highlighted as an important factor in accessing the service and the ICHN would welcome a broader debate around this issue.

The findings show that more than half of public health nursing service users aged 65 years and older are frail. This finding highlights the ability of the public health nursing services to identify those who are frail and to take account of the complex socio-ecological environment in community. They also reflect the many different roles played by the public health nursing service in supporting older people to live in community including: health promotion, early identification and prevention of problems, case management and the provision of direct clinical nursing care.

In the day-to-day implementation of a public health nursing service, these activities must be carefully balanced so that the important role of prevention and early identification is not lost in the overwhelming need to provide complex clinical care for an increasingly older and more dependant population. The ICHN concurs with the conclusions of the authors of the need for greater resources to be made available to support the assessment process of older people. We also support the need for further research to be conducted in this area.

Johanna Downey, President ICHN

Key Findings

- 24% of community-living Irish people aged 65 years and older are frail, 45% are pre-frail.

- 57% of Public Health Nursing service users aged 65 years and older are frail.

- Less than one third of frail older people access the Public Health Nursing service.

- Frail older peoples' healthcare entitlement, living arrangements, disability and severity of frailty are all important determinants for accessing the Public Health Nursing service.

- The prevalence of frailty in those aged 65 years and older varied from 17% to 29% across Community Healthcare Organisation regions.

Acknowledgements

The authors would like to thank the funders of this report: The Institute of Community Health Nursing and the funders of TILDA: Irish Life, The Atlantic Philanthropies and the Department of Health, which is providing funding on behalf of the State. We would also like to thank the TILDA participants without whom this research would not be possible.

Contents

Introduction

This is the second TILDA topic report which examines the characteristics of older adults utilising the Public Health Nursing (PHN) service in Ireland. The first report, explored the demographic and health profile of service users (1). This report will examine PHN service use through the lens of frailty among older adults using TILDA data. TILDA collects information on all aspects of health, economic and social circumstances from people aged 50 years and over who live in the community in the Republic of Ireland. We examined the population eligible to use Services for Older People in the Health Service Executive and consequently examined TILDA participants aged 65 years and older.

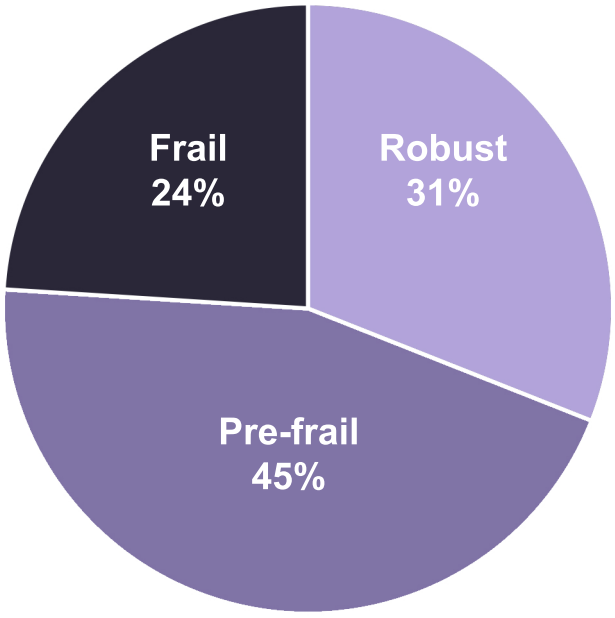
Part 1: Frailty

Frailty is a complex condition of old age. It occurs when people experience failure in multiple bodily systems leading to whole system breakdown. Frailty in older adults is viewed on a continuum and can change over time. Robust older people may have health problems but these problems are being managed well. Pre-frail older people are at an increased risk of adverse outcomes but are coping; and frail older people are at highest risk of adverse health outcomes such as falls, disability, hospitalisation, nursing home admission and even death. This is because frail older people have less ability to 'bounce-back' after minor stressors, such as a urinary tract infection, as their body is in the stage of system failure. Internationally frailty is common, 4-59% of people aged 65 years and older are classified as being frail, the range varies depending on how frailty is measured (2). Frailty is associated with increasing age, which has implications for Ireland as the population aged 80 years and older is projected to increase 3-fold between 2011 and 2046 (3).

An internationally accepted measure of frailty has not been agreed (4). Two methods of assessment are most commonly used. One is the Frailty Syndrome which views frailty as the presence of three or more specific health problems out of a list of five (5). The second is the Frailty Index which views frailty as a state of system breakdown due to the accumulation of physical, social and psychological health symptoms and conditions (6). In this report, frailty is measured using the latter approach, the Frailty Index, as this measure is a holistic way of measuring frailty and is more suitable to examining service allocation (7).

The Frailty Index consists of 32 health problems including chronic diseases, functional measures and quality of life measures, see table 2 in appendix. TILDA participants aged 65 years and older (n=3,422) were categorised as robust (0-3 health problems), pre-frail (4-7 health problems) and frail (8 or more health problems). Using this measure, we found that 31% of the Irish older population aged 65 and over were robust, 45% were pre-frail and 24% were frail, see Figure 1. The demographic and health characteristics of frail older people are shown in tables 3 and 4 in appendix. Frail older people tend to be older, have worse health and have lower levels of education compared to those who are robust or pre-frail. They also experience more falls, have more disabilities, use more medications and healthcare services than those who are pre-frail or robust. The majority of frail older people have a medical card, but a minority have private health insurance, see tables 3 and 4 in appendix.

Figure 1: Weighted estimate of frailty in the community-dwelling population aged 65 years and older in Ireland (TILDA, wave 1).



The Community Healthcare Organisation (CHO) structure allows us to examine the geographical distribution of frailty in the population aged 65 years and over in Ireland. The prevalence of frailty varied significantly from 17% to 29% across CHO areas, see Table 1 below.

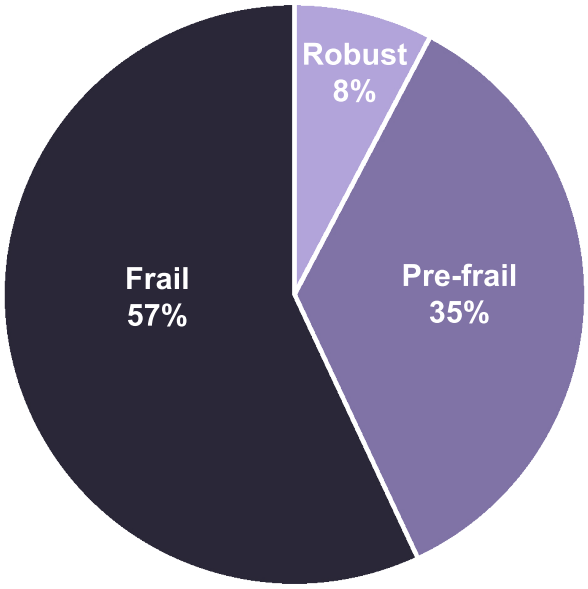
Table 1. Weighted estimate of frailty by CHO area in the community-living older Irish population aged 65+ (TILDA, wave 1).

		Prevalence of Frailty		Estimated number of older people who are frail	
Area	**Counties**	**%**	**95% CI**	**N**	**95% CI**
1	Donegal, Sligo/Leitrim/ West Cavan and Cavan/ Monaghan	16.9	12.2-23.0	9,600	6,900-13,000
2	Galway, Roscommon and Mayo	26.5	21.8-31.7	19,400	16,000-23,300
3	Clare, Limerick, and North Tipperary/East Limerick	26.3	21.0-32.3	11,400	9,100-14,000
4	Kerry, North Cork, North Lee, South Lee, and West Cork	23.7	20.1-27.6	17,500	14,900-20,400
5	South Tipperary, Carlow/ Kilkenny, Waterford and Wexford	22.9	18.2-28.4	15,000	11,900-18,600
6	Wicklow, Dun Laoghaire and Dublin East	19.5	15.2-24.7	7,300	5,700-9,300
7	Kildare/West Wicklow, Dublin West, Dublin South City, and Dublin South West	28.7	23.9-34.0	12,200	10,100-14,400
8	Laois/Offaly, Longford/ Westmeath, Louth and Meath	28.5	23.1-34.7	12,300	9,900-14,900
9	Dublin North, Dublin North Central and Dublin North West	27.8	22.3-34.1	13,400	10,800-16,500
	National	**24.4**	**22.7-26.2**	**118,400**	**110,100-127,100**

Part 2: Prevalence of frailty in the PHN service

Among the older population aged 65 years and older in Ireland, 11.8% or an estimated 57,300 people received the PHN service. Of these, the majority (57%) were frail, see Figure 2. This suggests that frailty is being identified by PHNs and those practitioners referring individuals to PHNs. However, this only represents 28% of those in the population who are frail and the remaining 72% of those who are frail, do not receive the PHN service. Thus it is of interest to know what the characteristics are among the frail older population in Ireland who do utilise the service.

Figure 2. Weighted estimate of frailty among PHN users aged 65 years and older (TILDA, wave 1).

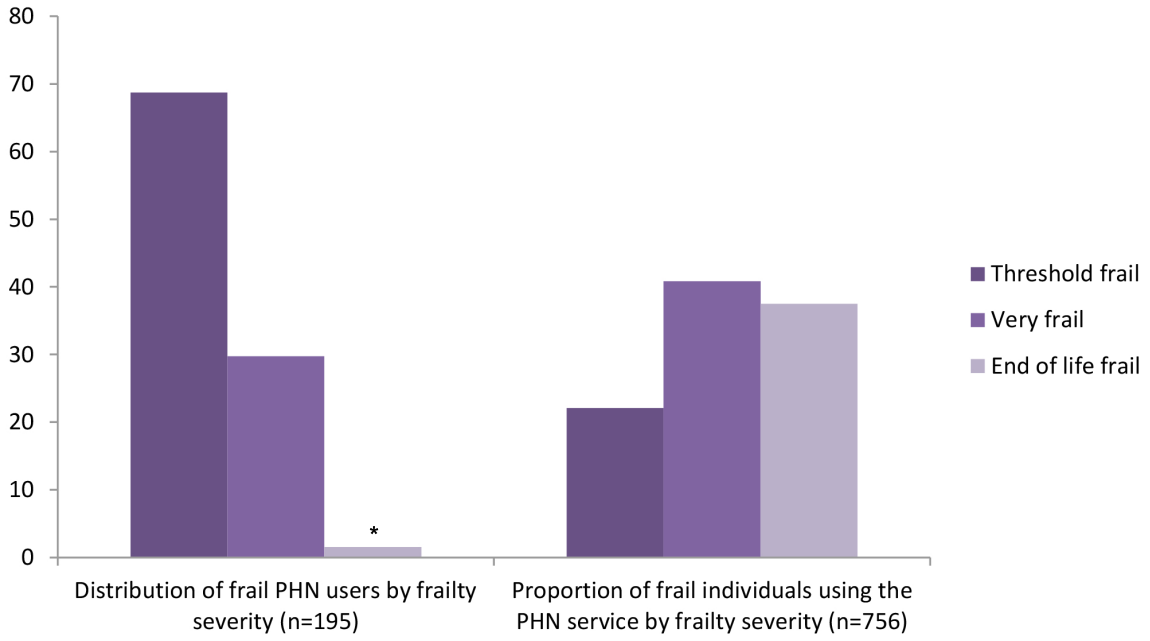


Part 3: Characteristics of frail PHN service users

This section examines the characteristics associated with PHN utilisation among frail older people (n=756) in TILDA , see table 5 in appendix. We firstly examined frailty severity. The majority (69%) of TILDA participants with frailty and using the PHN service are threshold frail (defined as 8-12 health problems), while the proportion who are very-frail (13-18 health problems) was 29%, and with end of life frailty (19 or more health problems) was 2%. This is shown in Figure 3.

As TILDA is a nationally representative sample of community dwelling individuals it will likely under-represent those who are very-frail or end of life frail, as these individuals were more likely to have been in a hospital/nursing home. However, a larger proportion of the individuals defined as being end of life frail (37%) and very-frail (40%) used the PHN service in comparison to the those individuals who were defined as having threshold frailty (22%).

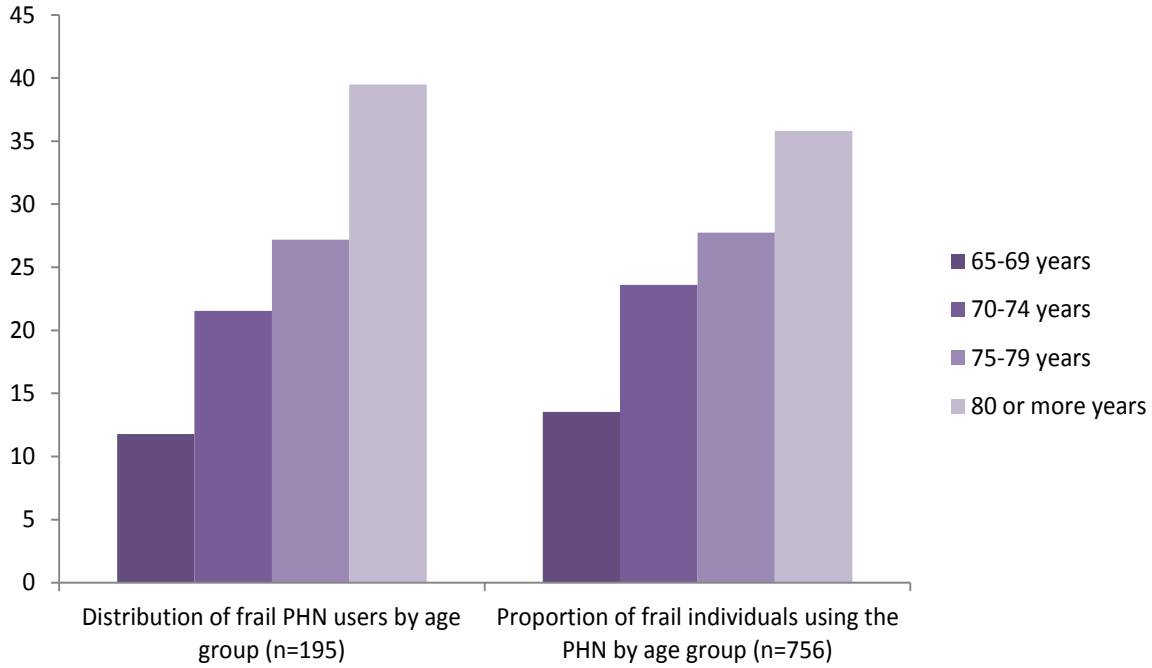
Figure 3. Unweighted estimate of frailty severity and PHN utilisation among frail participants aged 65 years and older (TILDA, wave 1).



** indicates less than ten individuals in this group*

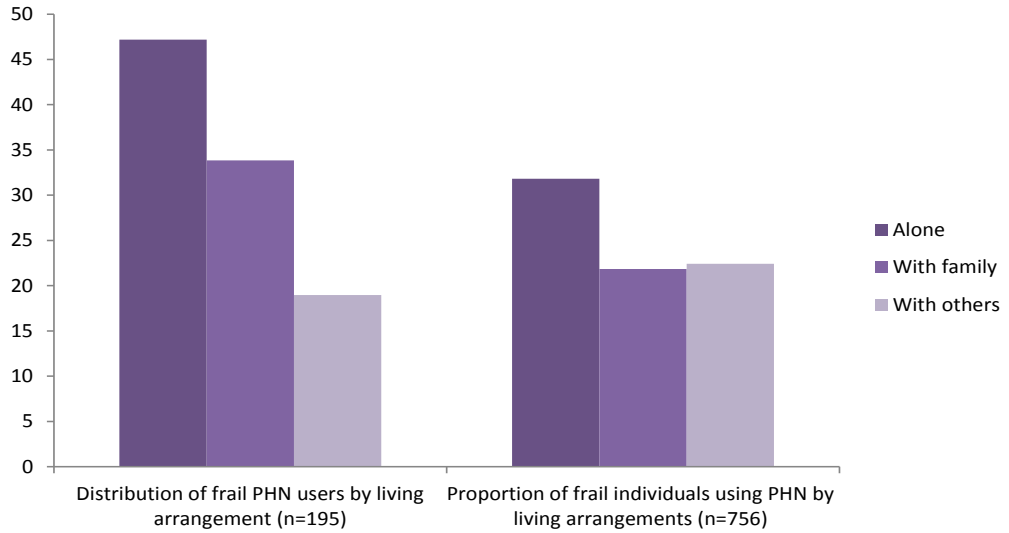
A higher proportion of women with frailty use PHN services than men in TILDA, and although these differences were not statistically significant, this trend has been identified elsewhere (8). However, increasing age is significantly associated with PHN use among frail older people. A low of 13% of the youngest age group (65-69 years) utilised the service compared to 36% in the oldest age group (80+ years). This effect of increasing age is likely to be underestimated but the variation in use by age reflects the interaction of increasing age and frailty.

Figure 4. Unweighted estimate of age and PHN utilisation among frail participants aged 65 years and older (TILDA, wave 1).



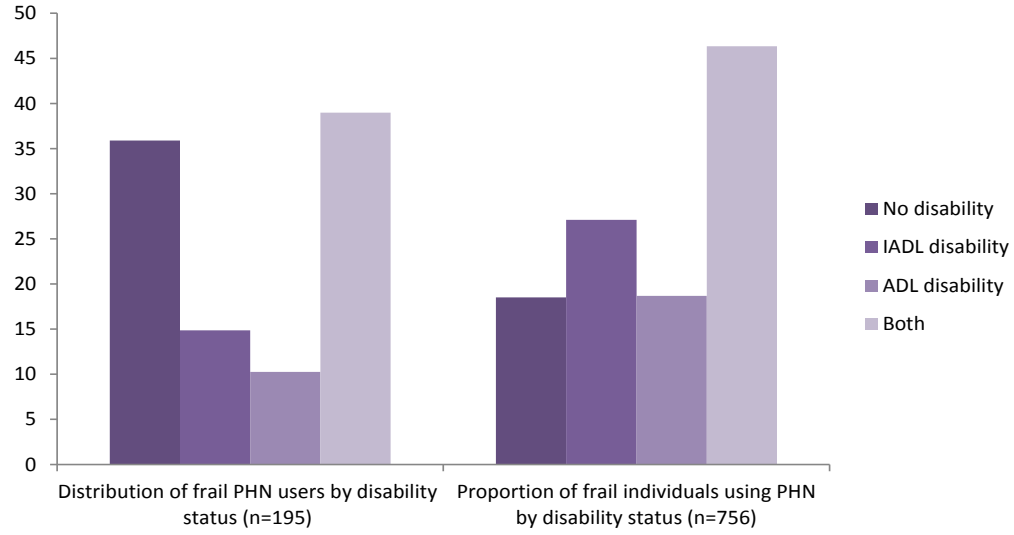
With respect to living arrangements, 47% of frail PHN users lived alone in TILDA, see Figure 5. This is consistent with other research findings about the vulnerability of living alone in old age, notably in the Irish context where living alone increases the risk of poverty (9).

Figure 5. Unweighted estimate of living arrangement and PHN utilisation among frail participants aged 65 years and older (TILDA, wave 1).



While there is a significant relationship between PHN service use and disability status, the results are not straightforward, see Figure 6. Of the frail PHN services users in TILDA the majority (39%) have both ADL and IADL disabilities, 36% have no ADL or IADL disability and small numbers have IADL-only and ADL-only disability. These results reflect the distribution of disability in the sample of frail older people, as overall, proportionally more (46%) of the frail older population with both ADL/IADL disability received the PHN service in comparison to only 18% of frail older population with no ADL or IADL disability.

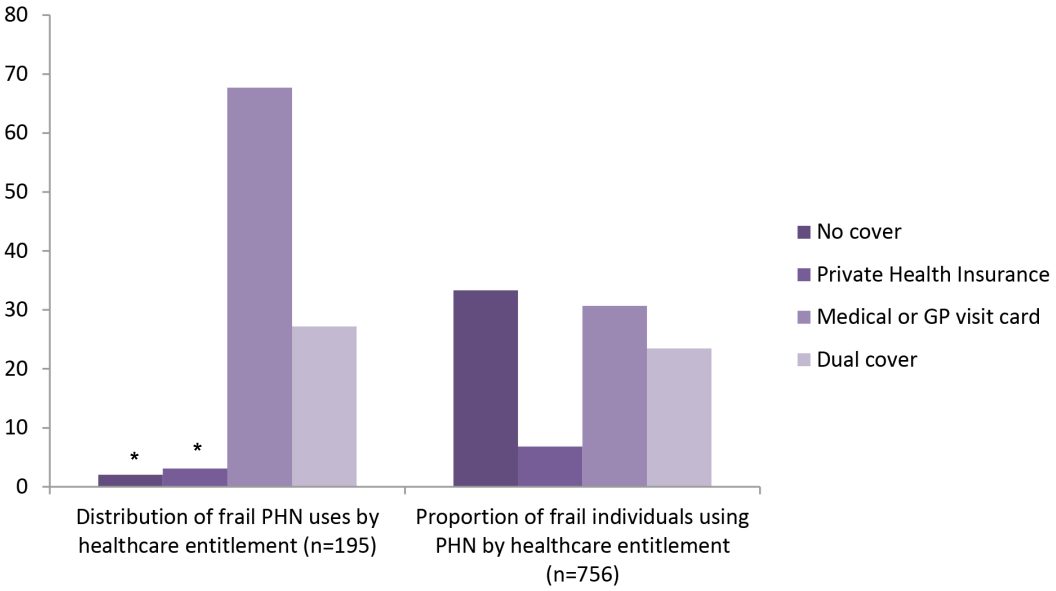
Figure 6. Unweighted estimate of disability status and PHN utilisation among frail participants aged 65 years and older (TILDA, wave 1).



The majority (89%) of Irish frail older people aged 65 years and older are entitled to a medical card which enables them to access state provided community services or GP visit card which allows free access to GP services, see appendix table 3.

This entitlement structure has important implications for PHN use. We can see from figure 7 below that the majority (94%) of frail PHN users in TILDA have a medical card or a GP visit card (67% with a medical card/GP visit only, 27% with a medical card/GP visit card and private health insurance).

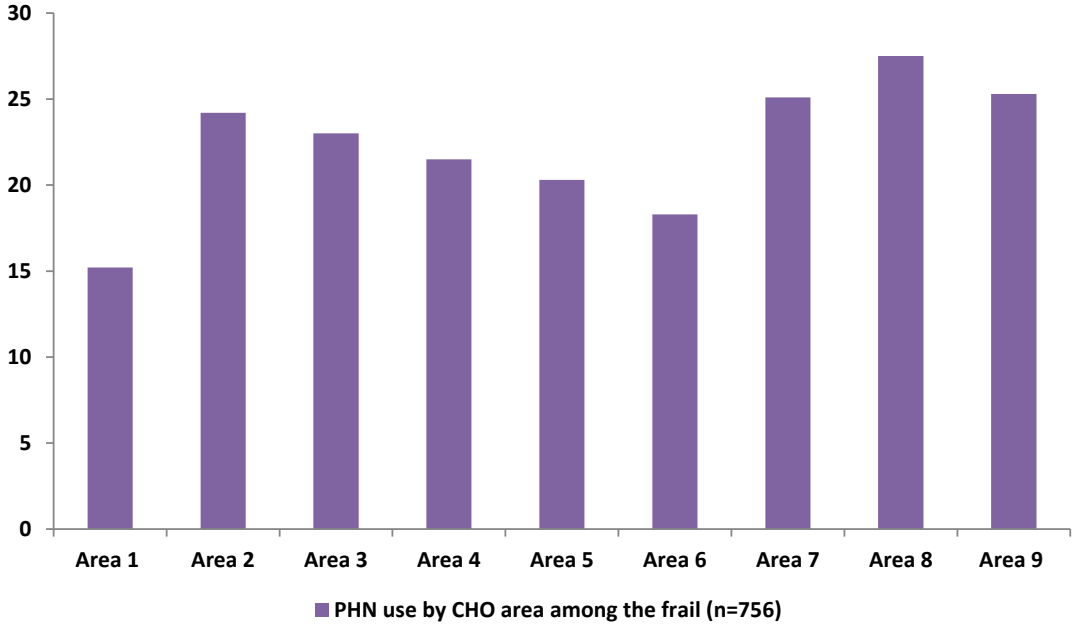
Figure 7. Unweighted estimate of healthcare entitlement and PHN utilisation among frail participants aged 65 years and older (TILDA, wave 1).



**indicates less than ten individuals in this group*

There were differences in the estimated numbers of frail older people in TILDA using the PHN service across CHO areas, but these were not statistically significant. The provision of PHN service to frail older people ranged from 15% (Area 1) to 28% (Area 8), see Figure 8. The CHO areas with a higher prevalence of frailty in their local population, did not have a corresponding high percentage of frail older people in the TILDA sample using the PHN service. This demonstrates variation in local service allocation practices within the PHN service across Ireland.

Figure 8. Unweighted estimate of proportion of frail participants aged 65 and older using PHN by CHO area (TILDA, wave 1)



Discussion

Typically it is recommended that frail older people are to receive a multi-modal set of personalised, integrated services (10, 11) and nurse-led case management is often a key component of such a system (12). While the PHN service is provided as a public health service for the entire local population, many of its roles characterise the case management of older people (13). This study found the PHN service has an important role in the management of frailty in Ireland, as the majority of PHN users were pre-frail or frail.

While over half of PHN service users were frail, very few frail older people overall accessed the service. Of the frail who did access the service, some of the factors commonly associated with vulnerability in old age such as increasing age and living alone were associated with higher levels of utilisation, similar to findings in other studies (8, 13). In addition this study found that medical card status plays an important role in accessing the PHN service. The effect of having a medical card and being able to access state provided services holds true for many other services. A study examining the determinants of service use among the Irish population aged 50 years and over found that medical card entitlement increased the odds of accessing GP, chiropody, home help, physiotherapy, dental, hearing, and optician services even after adjusting for the effect of other factors (14).

The inequalities created in the medical card system between the haves and have nots has been debated since the introduction of the General Medical Scheme in the 1970s, particularly with regard to access to GP care (15, 16). Recent health policy has focussed on widening access to healthcare, specifically GP care, for the Irish population (17), and Budget 2015 brought in GP visit cards for all those aged 70+ years (18). While this development has provided access to GP care, there is a notable absence of discussion on the importance of having a full medical card for older people as it is an important gateway to needed publicly provided community services. This report shows that frail older people who require support within their communities, are unable to access the PHN service and since the collection of this data, the situation is likely to have deteriorated further, as the over 70s medical card means test threshold was lowered in subsequent Budgets (19).

However, the findings also indicated issues with how the PHN service is allocated among frail older people as rates of PHN utilisation were higher among frail older people with threshold frailty and over a third of frail users had no disability. These findings are similar to an Irish study of the PHN service which found that 45% of the sample (n=120) had no

frailty-related risk factors and PHN service utilisation was similar for those with and without ADL disability (8).

While this report may underestimate PHN service utilisation among frail older people due to the under-sampling of older old people which particularly under-represents the very-frail and end of life frailty, these patterns may also be a reflection of variation in targeting and allocation decisions in the practice of PHN service delivery. For example, examining referral routes into the PHN service, two studies found that the majority of referrals came from the hospital sector rather than from the community (8, 20), while another study found an association between longer length of hospital stay and referral to a PHN at the time of discharge (21).

These patterns may also be a reflection of the lack of a comprehensive geriatric assessment process which identifies frailty among older people who live in the community. The Single Assessment Tool for Older People presents an opportunity to identify frailty in older adults, as the information collected can be used to create a Frailty Index (22). However, this assessment process may have significant implications for the everyday practice of PHNs including time allocated to undertake assessments. But perhaps more importantly, the outcome of these assessments may necessitate a reorientation of the PHN service towards older people with high frailty scores. This would move the PHN service from a general public health nursing role including health promotion activities, to a specific public health nursing role which specialises in the daily support of individuals with highly complex health and social care needs.

In conclusion, the findings from this study raise questions regarding the role of the PHN in the care of older people. Future research is warranted to examine differing intensities of PHN service delivery to older people with varying levels of frailty. It also raises questions about the objective identification of frail older people in practice and access and entitlement to PHN service for an increasingly frail older population. These findings are important in the context of ongoing health service reform, notably the National Clinical Programme for Older People (23) and the Integrated Care Programme for Older Persons which seek to re-design processes of care delivery to provide services more cohesively to frail older people.

References

1. Murphy C. Demographic and health profile of older adults utlising public health nursing services in Ireland: Findings from The Irish Longitudinal Study on Ageing (TILDA). Dublin, The Irish Longitudinal Study on Ageing 2015.

2. Collard RM, Boter H, Schoevers RA, Oude Voshaar RC. Prevalence of frailty in community-dwelling older persons: a systematic review. Journal of the American Geriatrics Society. 2012;60(8):1487-92

3. Central Statistics Office. Population and Labour Force Projections 2016-2046. Central Statistics Office, Information Section, Skehard Road, Cork; 2015a.

4. Sternberg SA, Schwartz MA, Karunananthan S, Bergman H, Clarfield M. The identification of frailty: a systematic literature review. Journal of the American Geriatrics Society. 2011;59(11):2129-38.

5. Fried LP, Tangen CM, Walston J, Newman AB, Hirsch C, Gottdiener J, et al. Frailty in older adults: evidence for a phenotype. Journal of Gerontology A Biological Sciences and Medical Sciences. 2001;56(3):M146-56.

6. Rockwood K, Song X, MacKnight C, Bergman H, Hogan DB, McDowell I, et al. A global clinical measure of fitness and frailty in elderly people. Canadian Medical Association Journal. 2005;173(5):489-95.

7. Roe L, Normand C, O'Halloran AM. The Impact Of Three Measures Of Frailty On Capturing Health Service Use In Ireland The International Association of Geriatrics and Gerontology European Congress (IAGG-EG); Dublin, Ireland 2015.

8. Ballard J, Mooney M, Dempsey O. Prevalence of frailty-related risk factors in older adults seen by community nurses. Journal of Advanced Nursing. 2013;69(3):675-84.

9. Central Statistics Office. Survey on Income and Living Conditions (SILC) Thematic Report on the Elderly 2004, 2009, 2010 (revised) and 2011 2013.

10. Turner G, Clegg A, Hodkinson I, Paynton D. Fit for Frailty II: Developing, commissioning, and managing services for people living with frailty in community settings: Guidance for GPs, Geriatricians, Health Service managers, social service managers and commissioners of services London,UK: British Geriatrics Society and the Royal College of General Practitioners and AGE UK 2015.

11. Turner G, Clegg A, Youde J. Fit for Frailty- consensus best practice guidance for the care of older people living in community and outpatient settings- a report from the British Geriatrics Society 2014. . London British Geriatrics Society; 2014.

12. Kodner DL. Whole-system approaches to health and social care partnerships for the frail elderly: an exploration of North American models and lessons. Health and Social Care in the Community. 2006;14(5):384-90.

13. McDonald A. PHIT Older Adults Report 2015 Local Health Office/Dublin North City/ Central Marino Health Centre; 2015.

14. McNamara A, Normand C, Whelan B. Patterns and determinants of healthcare utilisation in Ireland Dublin The Irish Longitudinal Study on Ageing 2013.

15. Hudson E, Nolan A. Public healthcare eligibility and the utilisation of GP services by older people in Ireland. The Journal of the Economics of Ageing. 2014(0).

16. Layte R, Nolan A. Eligibility for free GP care and the utilisation of GP services by children in Ireland. Int J Health Econ Manag. 2015;15(1):3-27.

17. Burke S, Normand C, Barry S, Thomas S. From universal health insurance to universal healthcare? The shifting health policy landscape in Ireland since the economic crisis. Health Policy. 2015;120(3):235-40.

18. Department of Public Expenditure and Reform. Statement of the Minister for Public Expenditure and Reform Mr. Brendan Howlin, T.D. 14 October 2014 2015.

19. Department of Public Expenditure and Reform. Minister for Public Expenditure and Reform Brendan Howlin, T.D. Address to Dáil Éireann on Expenditure Estimates 2013 Wednesday, 5th December, 2012 2013 [Available from: http://www.budget.gov.ie/budgets/2013/Documents/Expenditure%20Statement.pdf.

20. Byrne G, Brady AM, Horan P, Macgregor C, Begley C. Assessment of dependency levels of older people in the community and measurement of nursing workload. Journal of Advanced Nursing. 2007;60(1):39-49.

21. Murphy C. Liaison between hospital nurses and public health nurses on the discharge of elderly patients from hospital to home. The All Ireland Journal of Nursing and Midwifery 2002;2(1):33-7.

22. Roe L. An exploration of frailty and resource use in the Irish older population and the implications for the policy and practice of integrated care: A mixed methods study. Dublin, Ireland: Trinity College Dublin 2016.

23. Health Service Executive. Specialist Geriatric Services Model of Care Part 1: Acute Service Provision. Health Service Executive and the Royal College of Physicians of Ireland; 2012b.

Appendix

Table 2. Composition of the 32-item Frailty Index in TILDA.

Frailty Index items in the 32-item measure	
Difficulty walking 100m	Polypharmacy
Difficulty rising from chair	Knee pain
Difficulty climbing stairs	Hypertension
Difficulty stooping, kneeling or crouching	Angina
Difficulty reaching above shoulder height	Heart attack
Difficulty pushing/pulling large objects	Diabetes
Difficult lifting/carrying weights ≥10lb	Stroke & Transient ischemic attack
Difficulty picking up coin from table	High cholesterol
Difficulty following a conversation	Irregular heart rhythm
Feeling lonely	Other Cardiovascular disease
Absentmindedness	Cataracts
Poor self-rated physical health	Glaucoma & age related macular degeneration
Poor self-rated vision	Arthritis
Poor self-rated hearing	Osteoporosis
Poor self-rated memory	Cancer
Daytime sleepiness	Varicose ulcer

Table 3. Socio-economic characteristics of adults aged 65 years and older according to frailty classification (TILDA, wave 1).

	Robust		Pre-frail		Frail		
	%	95% CI	%	95% CI	%	95% CI	P value
Socio-demographic							
Age 75 years and more	28.2	25.2,31.4	44.2	41.4,47.1	59.8	55.8,63.1	<0.001
Female	45.6	42.8,48.5	55.0	52.7,57.3	65.9	62.4,69.2	<0.001
Live alone	28.9	26.1,31.8	33.2	30.6,35.8	40.6	36.6,44.6	<0.001
Education [primary level or less]	49.3	45.9,52.6	55.1	52.2,58.1	66.1	62.4,69.6	<0.001
No medical card or PHI cover	7.2	5.8,9.1	2.6	1.9,3.6	1.5	0.8,2.6	<0.001
Private health insurance only	24.6	21.9,27.6	16.7	14.6,18.9	8.8	7.1,10.9	<0.001
Medical or GP visit card	40.5	36.8,44.3	47.4	44.2,50.6	63.6	59.6,67.4	<0.001
Dual cover	27.6	24.5,30.8	33.2	30.5,36.1	26.0	22.6,29.8	<0.001
Health Status							
No IADL or ADL disability	97.3	95.9,98.2	87.9	86.1,89.6	47.6	43.9,51.5	<0.001
IADL disability	1.3	0.7,2.2	3.3	2.4,4.3	15.8	13.2,18.8	<0.001
ADL disability	1.2	0.6,2.3	6.4	5.2,7.7	13.4	11.0,16.3	<0.001
Both IADL and ADL disability	0.1	0.0,1.1	2.4	1.6,3.4	23.0	19.8,26.6	<0.001
Two or more chronic conditions	23.6	21.1,26.4	77.4	75.0,79.6	96.0	94.3,97.2	<0.001
1 of more falls	14.0	11.9,16.4	21.6	19.5,23.9	31.2	27.6,35.0	<0.001
Fair/Poor SR physical health	6.6	5.1,8.4	25.8	23.3,28.4	65.4	61.8,68.8	<0.001

SR= Self reported. ADL= Activities of daily living. ADL= Instrumental Activities of Daily Living.

Pearsons chi square test of statistical significance

Table 4. Health service utilisation in the previous 12 months among adults aged 65 years and older according to frailty classification (TILDA, wave 1).

	Robust		Pre-frail		Frail		
Average number of	**n**	**95% CI**	**n**	**95% CI**	**n**	**95% CI**	**P value**
General Practitioner visits	2.9	2.7,3.1	4.9	4.7,5.1	7.5	6.8,8.1	<0.001
Emergency Department visits	0.1	0.1,0.2	0.2	0.1,0.2	0.4	0.3,0.5	<0.001
Hospital admissions	0.1	0.0,0.1	0.2	0.2,0.3	0.5	0.4,0.6	<0.001
Outpatient clinic visits	0.6	0.5,0.7	1.7	1.9,4.5	2.8	2.4,3.3	<0.001
Nights in hospital	7.6	5.6,9.7	7.8	6.4,9.3	14.9	12.1,17.7	<0.001
Medications	1.0	0.9,1.0	3.3	3.2,3.4	6.0	5.8,6.2	<0.001

Pearsons chi square test of statistical significance

Table 5. PHN service utilisation in the previous 12 months among frail older TILDA participants aged 65 years and older (TILDA wave,1).

	Frail PHN users (n=195)	Frail older TILDA participants (n=756)			
		Not using the PHN service	Using the PHN service	Total	
	%	%	%	%	P value
Frailty Severity					
Threshold frail	68.7	77.9	22.1	100	<0.001
Very frail	29.7	59.1	40.8	100	<0.001
End of life frail	1.5	62.5	37.5	100	<0.001
Gender					
Female	63.6	73.5	26.4	100	=0.604
Male	36.4	75.2	24.7	100	=0.604
Age group					
65-69 years	11.8	86.4	13.5	100	<0.001
70-74 years	21.5	76.4	23.6	100	<0.001
75-79 years	27.2	72.2	27.7	100	<0.001
80+ years	39.5	64.2	35.8	100	<0.001
Living arrangement					
Living alone	47.2	68.1	31.8	100	<0.01
Living with a spouse	33.8	78.1	21.8	100	<0.01
Living with others	18.9	77.6	22.4	100	<0.01
Disability					
Not ADL/IADL disability	35.9	81.5	18.5	100	<0.001
IADL disability	14.8	72.9	27.1	100	<0.001
ADL disability	10.2	81.3	18.7	100	<0.001
Both ADL/IADL disability	38.9	53.6	46.3	100	<0.001
Healthcare Entitlement					
No medical card or PHI cover	2.0	66.7	33.3	100	<0.001
Private health insurance	3.1	93.2	6.8	100	<0.001
Medical or GP visit card only	67.7	69.3	30.7	100	<0.001
Dual cover	27.2	76.5	23.4	100	<0.001

Pearsons chi square test of statistical significance

tilda

Staidéar Fadaimseartha na hÉireann um Dhul in Aois

The Irish Longitudinal Study on Ageing